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COTTON INSECT CONDITIONS FOR WEEK ENDING AUGUST 4, 1945
(Fifteenth Cotton Insect Survey Report for 1945)

The weather cleared in Texas and Oklahoma but was generally favorable for boll weevils in other areas this week. However, there are now sufficient boll weevils present to cause heavy losses in all of the States where they occur, except Virginia and sections of North Carolina, regardless of weather conditions during the remainder of this season. Growers are advised to dust with calcium arsenate to protect the bolls that have been set. Late dusting gives greater returns per application than early applications and there is less danger of building up aphid infestations. Thousands of bales of cotton can still be saved by dusting with 2 to 4 applications of calcium arsenate during August or until bolls are safe from weevil attack. Growers who do not protect the bolls may experience the most serious weevil losses since 1941.

New infestations of leafworms were reported from Ward, Reeves, Colorado, Waller, Austin, DeWitt, Bee, Goliad, Johnson, and Tom Green Counties of Texas during the week, and from Ashley County, Arkansas on August 6. The increase in leafworms was very slow in the coastal areas of Texas but infestations were becoming fairly general in some fields in the Presidio Valley.

Bollworm moths were observed in considerable numbers in experimental fields at Florence, South Carolina. General though light infestations of bollworms are present in most areas of central, northern and western Texas, with spotted heavy infestations in the western irrigated sections. Fields should be watched for bollworms as infestations can increase and cause serious damage in a very short time. Insecticides should be applied just after the eggs hatch and while the worms are small.

BOLL WEEVIL

TEXAS: Hot, dry weather this week was very beneficial for cotton fruiting and helped reduce insect damage. However, in fields of rank cotton where ground is almost completely shaded weevils continue to increase. Migrations of weevils from fields with concentrated infestations are occurring and tend to reduce the average percentage of infestation.

Infestation records made in 471 fields in 61 counties this week averaged 36% punctured squares, or a weighted average for the State of 30%. More fields were examined this week in the western edge of the boll weevil area where infestations were light. Thirteen percent of the fields were not infested; 18% ranged from 1 to 10% infestation; 18% ranged from 11 to 25% infestation; 20% ranged from 25 to 50% infestation; and 31% of the fields above 50% infestation. In 4 southeastern counties the average infestation was 44%; in 8 south central counties, 17%; in 2 Edwards Plateau counties, 3%; in 12 east Texas counties, 72%; in 18 Blacklands counties, 38%; in 4 Cross-timber counties, 28%; and in 12 Rolling Plains counties, 6%. The largest increase in infestation occurred in east Texas.

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OKLAHOMA: The hot, dry weather over most of the State was favorable for cotton development. Boll weevil infestation continues to rise somewhat in practically all counties in spite of the heavy fruiting of cotton. The second brood of 1945 weevils will be emerging soon in the southern portion of Oklahoma.

The average infestation in 233 fields examined in 30 counties was 27% and the weighted average for the State, 18%. Seven percent of the fields were not infested; 27% ranged from 1 to 10% infestation; 31% from 11 to 25% infestation; 17% from 26 to 50% infestation; and 18% of the fields above 50% infestation. The infestation in 2 northeastern counties averaged 7%; in 3 west central counties, 8%; in 4 central counties, 10%; in 4 east central counties, 31%; in 5 southwestern counties, 11%; in 8 south central counties, 35%; and in 4 southeastern counties, 59%.

LOUISIANA: Conditions were favorable for weevil increase and the infestation nearly doubled during the week. General dusting is in progress in northeastern Louisiana where the supply of calcium arsenate is ample but supplies of nicotine mixtures are inadequate. Some dusting is reported in northwestern Louisiana. There is plenty of calcium arsenate but no nicotine mixtures available in that area. Cotton is reaching maturity in southern and south central Louisiana.

The average weevil infestation in 429 fields examined this week was 54% as compared to 30% last week. Two percent of the fields were not infested; 7% of the fields ranged from 1 to 10%; 20% of the fields from 11 to 25%; 20% of the fields from 26 to 50%; and 51% of the fields above 50% infestation.

Weevil migration extends into the northern part of the State and serious boll damage will result unless dusting is used.

ARKANSAS: With favorable weather conditions weevil infestation increased sharply. Considerable dusting was done this week in southeastern Arkansas. Supply of calcium arsenate is adequate but no nicotine mixtures are available.

The infestation in the 193 fields inspected in the southern third of the State averaged 23% this week as compared to 16% last week. Seven percent of the fields were not infested; 25% ranged from 1 to 10%; 35% ranged from 11 to 25%; 21% ranged from 26 to 50%; and 12% of the fields above 50% infestation. The average infestation in the southwestern counties was 21%; in the south central counties, 69%; and in the southeastern counties, 20%.

MISSISSIPPI: Heavy rains continued in the southern half of the State and in the Delta. The northeast corner of Mississippi is still dry and few weevils are present but poisoning is needed in nearly all other sections except the north Delta. Weevils were present in 167 of the 191 fields examined in 28 counties. The average infestation was 27% for all fields examined and 31% for the infested fields, or an increase of about 10% during the week.

In the Delta, rainfall was heavier than needed for cotton, especially in the tier of counties adjacent to the river. Dusting is well under way in the southern Delta counties and has started in the central section. Infestations were found in 89 of the 106 fields inspected in 9 Delta counties, with an average of 29% punctured squares for all fields and 34% for the infested fields. No infestations were found in 16% of the fields; from 1 to 10% in 32% of the fields; from 11 to 25% in 10% of the fields; from 26 to 50% in 12% of the fields; and above 50% infestation in 30% of the fields. The fact that half of the fields do not yet need weevil control while serious damage is being caused in others emphasizes the importance of making infestation counts to determine where dusting is needed.

GEORGIA: Weevil migration is in full swing over the southern half of Georgia. In the southwestern section weevils have reached the saturation point with practically all squares being punctured and very serious boll damage indicated unless dusting is used to protect the very light crop of bolls that has been set. Sharp increases in infestations occurred in the northeastern counties and in the lower counties of the northwestern section. Picking is beginning in southern Georgia.

The infestation in the 234 fields examined this week averaged 53% as compared to 37.6% last week. The average infestation in 16 fields in the southeastern section of the State was 61%; in 112 fields in the southwestern section, 69%; in 84 fields in the northeastern section 23%; and in 22 fields in the northwestern section, 37%.

SOUTH CAROLINA: Cloudy, showery weather with moderate temperatures and a heavy increase in weevil infestation characterized conditions this week. There is almost a complete absence of squares in many fields in the southern counties, and while cotton continues to fruit rapidly in the Piedmont, boll weevils are destroying the majority of squares as they form. A heavy population of adult weevils is present in all fields and many young bolls are being attacked. Dusting would still be profitable in the entire Piedmont section.

All of the 297 fields examined in the 42 cotton-producing counties of the State were infested and in all but 5 fields the infestation was above 10%. The State average infestation increased from 34% last week to 50% this week. Very little dusting is being done.

NORTH CAROLINA: Conditions favorable for boll weevils continue, and in the coastal plains and Piedmont areas squares are shedding from excessive rains. Examinations of fallen squares indicate less than half the shedding was due to weevil punctures.

Examinations in 90 fields in 15 northcentral and northeastern counties averaged 28% infestation. The infestation in these counties two weeks ago was only 6%. Ten percent of the fields were not infested; 23% ranged from 1 to 10% infestation; 26% from 11 to 25% infestation; 14% from 26 to 50% infestation; and 27% with over 50% infestation.

VIRGINIA: Dr. Grayson reports that one of the four fields examined near Holland was not infested and the other three had 2% punctured squares.

COTTON FLEA HOPPER

TEXAS: Very little change from last week. Examinations in 437 fields averaged 7.8 flea hoppers per 100 terminal buds in comparison to 8.6 last week. No flea hoppers were found in 24% of the fields; from 1 to 10 in 52% of the fields; from 11 to 25 in 19% of the fields; and 26 or more per 100 terminal buds in 5% of the fields.

OKLAHOMA: Examinations in 245 fields averaged 8.4 flea hoppers per 100 terminals or about the same as two weeks ago. No flea hoppers were found in 13% of the fields; from 1 to 10 in 43% of the fields; from 11 to 25 in 40% of the fields; and 26 or more in 4% of the fields.

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OTHER PLANT BUGS

ARIZONA:

Salt River Valley: Heavy general rains fell on July 30 and August 2. Weather hot and sultry with heavy square shedding in a good many fields. Stinkbug populations increased considerably in many fields this week.

Sweepings at Goodyear averaged 56 injurious insects per 100 net strokes on stub and 82 on plant cotton. None of the plant cotton swept in this area had been dusted.

In the Buckeye area *Lygus* bugs decreased somewhat but stinkbugs increased greatly, so the populations of injurious insects continued high.

At Sacaton an average of 10 injurious insects were collected per 100 sweeps in the dusted plots and 26 in the checks.

In the Litchfield area, *Lygus* and stinkbug populations were high in all undusted fields examined. The average was 47 injurious insects per 100 sweeps in undusted plots and 11 in the dusted.

Santa Cruz Valley: Several local rains fell in various parts of the Valley. Cotton continues to fruit rapidly but shedding was beginning. Insect populations are building up on cotton and dusting is expected to begin in some fields next week.

Graham County: General rains, and cotton made good progress during the week. Insect populations continue comparatively low. *Lygus* bugs have decreased but stinkbugs and superb plant bugs remained about the same.

Greenlee County: Cotton made good progress. *Lygus* populations continue low, ranging from 0 to 3 per 100 sweeps.

NEW MEXICO: Cotton is progressing rapidly with very little shedding. In Dona Ana County sweepings ranged from 0 to 14 and in Eddy County from 0 to 30 injurious insects per 100 net strokes. *Lygus* bugs predominated with only an occasional stinkbug collected. Some dusting was reported and some mechanical insect collectors were being operated.

TENNESSEE: Tarnished plant bugs were reported by Dr. W. W. Stanley to have ruined the first set of bolls on about 10 acres of experimental cotton at Knoxville.

TEXAS: Rapid plant bugs continue to cause light to medium damage in many fields around Waco. *Lygus* and other plant bugs are increasing in the El Paso Valley and are reaching the danger point in cotton fields adjacent to alfalfa.

MISCELLANEOUS INSECTS

Aphids are increasing to some extent on both treated and untreated cotton in all sections. Although the increase is more rapid where insecticides have been used, only a few cases of damaging infestations have been reported. Many growers are reported afraid to use calcium arsenate because of fear of aphids. It is probable that succulent cotton with ample moisture supply can carry a heavier aphid population without injury than water stressed plants.

Garden webworm damage continues in cotton in northeastern Arkansas and considerable quantities of insecticides are being used for control.

Red spider infestations were developing in a few spots in the experimental fields at Presidio, Texas, that had been dusted with DDT. A few red spiders were also noted at Tallulah, Louisiana.

Cotton leaf perforators were damaging about 150 acres of short-staple cotton near Eloy, Arizona. Some plants have been nearly defoliated, and in a few instances the perforators have caused premature opening of bolls.

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